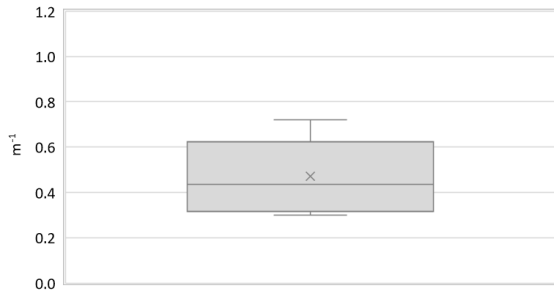


| | | | | | | | | |
|---|---|--|-----------------------|-----------------------------|--------------------|---------------------|--|---------------------|
| Region: | Trentino Alto Adige | | | | | | Archetype code: RES_APPBLOCK_ 1941-1950_E_TN | |
| Building category: | Residential buildings – Apartments (in multifamily blocks) | | | | | | | |
| Period of construction: | 1941-1950 | | | | | | | |
| Climatic zone: | E | Number of records: | | | | 713 | | |
| Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: no data available Roof slabs: no data available | | | | | | | Data sources: APE (100%) | |
| | Data | Symbol | Unit of measure | Mean value | Standard deviation | Q1 (first quartile) | Median value | Q3 (third quartile) |
| BUILDING GEOMETRY | Number of floors | n_f | - | - | - | - | - | - |
| | Gross height | H_g | m | - | - | - | - | - |
| | Footprint area | $A_{\text{footprint}}$ | m ² | - | - | - | - | - |
| | Heated gross floor area | $A_{H,g}$ | m ² | - | - | - | - | - |
| | Heated net floor area | $A_{H,n}$ | m ² | 859 | 716 | 388 | 684 | 968 |
| | Heated gross volume | $V_{H,g}$ | m ³ | - | - | - | - | - |
| | Heated net volume | $V_{H,n}$ | m ³ | 3310 | 2562 | 1636 | 2718 | 3402 |
| | Compactness ratio | $A_{\text{env}}/V_{H,g}$ | m ⁻¹ | 0.47 | 0.15 | 0.32 | 0.44 | 0.62 |
| | WWR – North orientation | WWR_N | - | - | - | - | - | - |
| | WWR – South orientation | WWR_S | - | - | - | - | - | - |
| | WWR – East orientation | WWR_E | - | - | - | - | - | - |
| | WWR – West orientation | WWR_W | - | - | - | - | - | - |
| | Window to useful floor area ratio | A_{wi}/A_{use} | - | - | - | - | - | - |
| | ENVELOPE | Roof type | - | | | | | |
| U-value of the roof | | $U_{\text{fi;up}}$ | W/(m ² ·K) | - | - | - | - | - |
| External walls type | | - | | | | | | |
| U-value of the wall | | U_{wl} | W/(m ² ·K) | - | - | - | - | - |
| Slab on ground floor type | | - | | | | | | |
| U-value of the floor | | $U_{\text{fi;lw}}$ | W/(m ² ·K) | - | - | - | - | - |
| Windows type | | - | | | | | | |
| U-value of the windows | | U_{W} | W/(m ² ·K) | - | - | - | - | - |
| Shading system type | | - | | | | | | |
| GAINS and VENTILATION | Occupancy density * | O_{C} | person/m ² | UNI EN 16798-1 - Table A.19 | | | | |
| | Lighting power density * | W_{L} | W/m ² | UNI EN 16798-1 - A.8.3 | | | | |
| | Equipment power density * | W_{A} | W/m ² | UNI EN 16798-1 - A.8.3 | | | | |
| | Type of ventilation | Natural: 100% | | | | | | |
| | Air exchange rate * | n | h ⁻¹ | 0.30 | - | 0.30 | 0.30 | 0.30 |
| THERMAL SYSTEMS | Heating system type | Autonomous: 59%, Unknown: 21%, Centralized: 20% | | | | | | |
| | Heating generator | Boiler (Unknown type): 78%, Traditional boiler: 7%, Condensing boiler: 6%, Unknown: 3%, DHC: 3%, Air source heat pump: 2%, Fireplace: 1% | | | | | | |
| | Daily operating time of the heating system * | t_{H} | h | 14 | - | 14 | 14 | 14 |
| | Energy carrier | Natural gas: 95%, Gas Oil: 2%, Solid biomass: 1%, LPG: 1%, DHC: 1% | | | | | | |
| | Heating emission sub-system | - | | | | | | |
| | Cooling system type | - | | | | | | |
| | Daily operating time of the cooling system * | t_{C} | h | - | - | - | - | - |
| | Cooling emission sub-system | - | | | | | | |
| | DHW system type | Autonomous – coupled with heating: 64%, Unknown: 15%, Autonomous - detached from heating: 12%, Centralized – coupled with heating: 7%, District heating: 2%, | | | | | | |
| | DHW generator | Natural gas boiler: 72%, Unknown: 16%, Electric Heat Pump: 10%, Electric boiler: 2% | | | | | | |
| | * These values were not available in the considered sources, and are thus derived from UNI EN Standards | | | | | | | |

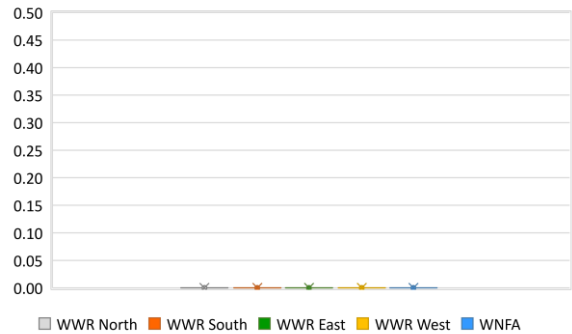
| | | |
|--------------------------------|--|---|
| Region: | Trentino Alto Adige | Archetype code: RES_APPBLOCK_ 1941-1950_E_TN |
| Building category: | Residential buildings – Apartments (in multifamily blocks) | |
| Period of construction: | 1941-1950 | |
| Climatic zone: | E | |
| Number of records: 713 | | |

Numerical variables – GEOMETRY

COMPACTNESS RATIO

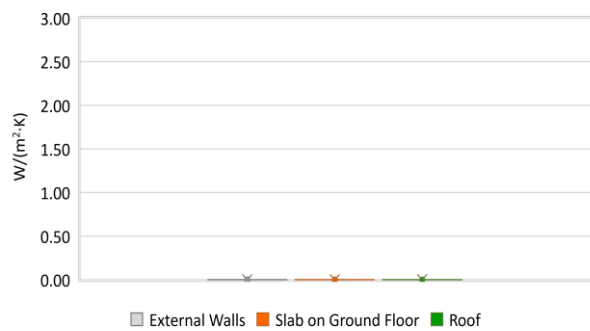


WINDOWS TO WALL RATIO

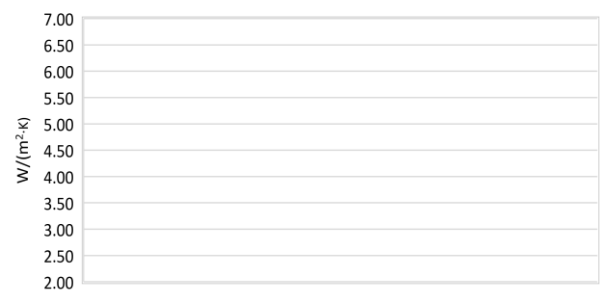


Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



WINDOWS U-VALUE



Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

AIR EXCHANGE RATE



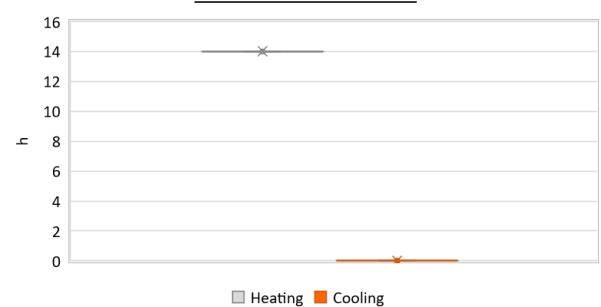
OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY



DAILY OPERATING TIME

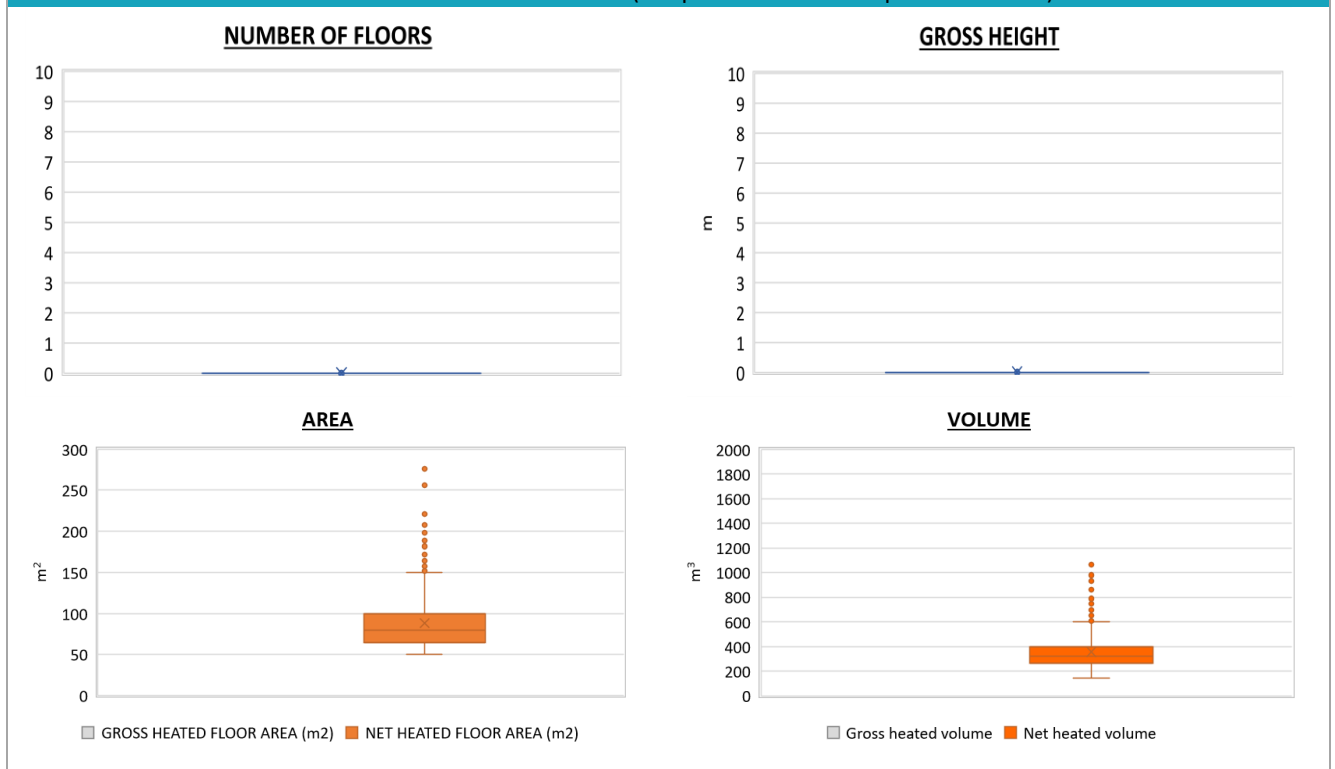


| | | | | |
|-------------------------|--|--------------------|-----|--|
| Region: | Trentino Alto Adige | | | Archetype code: RES_APPBLOCK_ 1941-1950_E_TN |
| Building category: | Residential buildings – Apartments (in multifamily blocks) | | | |
| Period of construction: | 1941-1950 | | | |
| Climatic zone: | E | Number of records: | 713 | |

| ADDITIONAL DATA | | | | | | | | |
|-------------------------|----------------------------------|---------------------------------|-----------------|---|--------------------|---------------------|--------------|---------------------|
| | Data | Symbol | Unit of measure | Mean value | Standard deviation | Q1 (first quartile) | Median value | Q3 (third quartile) |
| GEOMETRY: apartments | Inter-storey height | H_n | m | - | - | - | - | - |
| | Heated gross floor area | $A_{H,g}$ | m ² | - | - | - | - | - |
| | Heated net floor area | $A_{H,n}$ | m ² | 88 | 33 | 65 | 80 | 99 |
| | Heated gross volume | $V_{H,g}$ | m ³ | - | - | - | - | - |
| | Heated net volume | $V_{H,n}$ | m ³ | 355 | 138 | 264 | 320 | 400 |
| THERMAL SYSTEMS | Heating efficiency or <i>COP</i> | $\eta_{H,gen}$ or $COP_{H,gen}$ | - | This value has to be retrieved from suitable datasheets | | | | |
| | Total heating power * | $P_{H,gen}$ | kW | 53 | 191 | 24 | 25 | 29 |
| | Cooling efficiency or <i>EER</i> | $\eta_{C,gen}$ or $EER_{C,gen}$ | - | This value has to be retrieved from suitable datasheets | | | | |
| | Total cooling power * | $P_{C,gen}$ | kW | 24 | 39 | 4 | 5 | 7 |
| | Temperature of DHW | ϑ_w | °C | 40 | - | 40 | 40 | 40 |
| | DHW system power * | $P_{W,gen}$ | kW | 48 | 79 | 23 | 24 | 28 |

* These values refer to the apartment scale

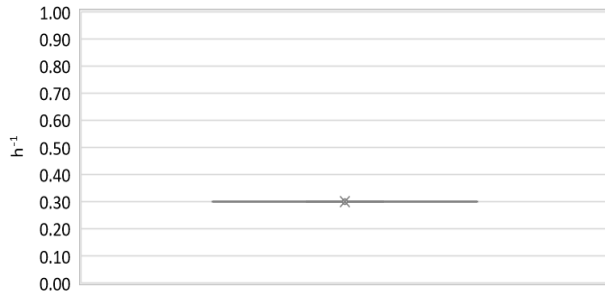
Additional data: GEOMETRY (the plots refer to the apartment scale)



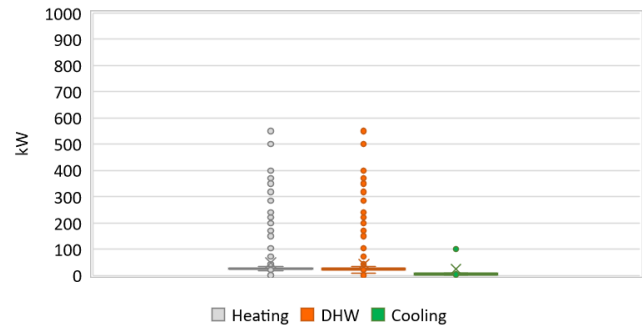
| | | |
|--------------------------------|--|---|
| Region: | Trentino Alto Adige | Archetype code: RES_APPBLOCK_ 1941-1950_E_TN |
| Building category: | Residential buildings – Apartments (in multifamily blocks) | |
| Period of construction: | 1941-1950 | |
| Climatic zone: | E | |
| Number of records: | | 713 |

Additional data: other numerical variables that are not included in the archetype

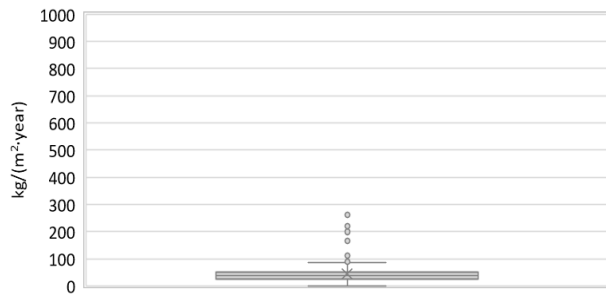
AIR EXCHANGE RATE



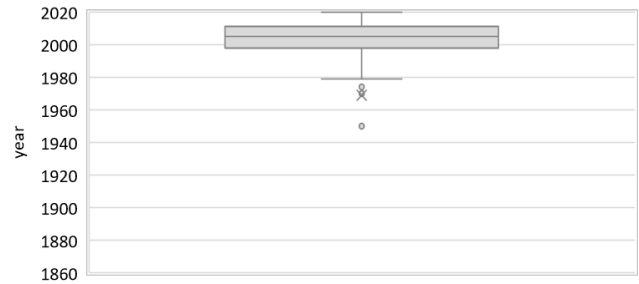
SYSTEM POWER



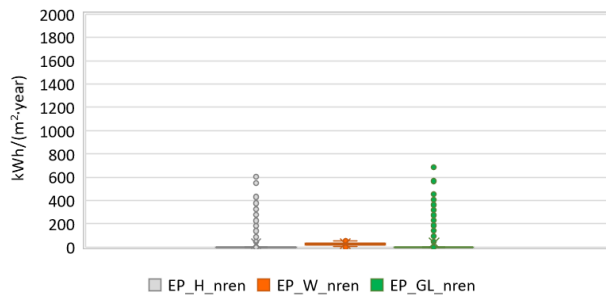
CO₂ EMISSION



HEATING SYSTEM INSTALLATION YEAR



NON-RENEWABLE PRIMARY ENERGY USE



RENEWABLE PRIMARY ENERGY USE

